APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,436	01/18/2002	John Murdock	END901051US1	1865

30400 7590 03/15/2005		EXAMINER
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ART UNIT	PAPER NUMBER
2613	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/051,436	MURDOCK ET AL.
	Examiner	Art Unit	
	Erick Rekstad	2613	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _18 January 2002_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-30_ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-30_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _18 January 2002_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

This is a first action for application no. 10/051,436 filed on January 18, 2002 in which claims 1-30 are presented for examination.

Drawings

The drawings are objected to because of misspellings in Fig. 6A. In the figure, "sumultaneously" should be "simultaneously" under section 210. Under section 230, "Mumber" should be "Number". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-10, 13, 15-17, 19-24 and 27 are rejected under 35 U.S.C. 102(b)

as being anticipated by US Patent 6,104,751 to Artieri.

[claims 1, 6, 15, 20]

As shown in Figures 8 and 9, Artieri teaches a method and system of decoding a

frame of an encoded stream of video frames, said method comprising:

Forwarding an encoded stream of video frames to multiple decode processes in

parallel (Col 20 Lines 4-25 and Lines 42-54).

Decoding at least one frame of the encoded stream of video frames employing

the multiple decode processes (Col 20 Lines 4-10 and Lines 37-41).

Wherein for each frame of said at least one frame, each decode process of the

multiple decode processes selects and decodes a respective portion of the frame, and

wherein cumulatively the respective portions decoded by the multiple decode processes

comprise the entire frame (Col 20 Line 4-Col 21 Line 31, Figs 7-9).

[claims 2 and 16]

Artieri further teaches the method of claim 1 and system of claim 15, wherein for

each frame of said at least one frame, each decode process of said multiple decode

processes discards portions of the frame being decoded outside of its respective portion

to decode (Col 20 Line 63-Col 21 Line 26, Fig. 9).

[claims 3 and 17]

As shown in Figure 8, Artieri teaches the method of claim 1 and system of claim

15, wherein said forwarding comprises forwarding the encoded stream of video frames

to the multiple decode processes in parallel without preprocessing the encoded stream

of video frames to facilitate decoding thereof by the multiple decode processes (Col 20

Lines 4-25).

[claims 5 and 19]

Artieri teaches the method of claim 1 and system of claim 15, wherein the

multiple decode processes comprise multiple decoders connected in parallel, each

decoder comprising a standard definition decoder, and wherein the encoded stream of

video frames comprises a high definition signal to be decoded (Col 20 Lines 4-10 and

Lines 14-15).

[claims 7-9, and 21-23]

Artieri teaches the method of claim 1 and system of claim 15, further comprising

exchanging motion overlap data between decode processes of the multiple decode

processes decoding adjacent respective portions of the frame (Col 20 Lines 42-54, Col

20 Line 65-Col 21 Line 26).

The exchanging occurs upon decoding the frame when the frame comprises an I

frame or P frame as required by claims 8 and 22(Col 7 Line 52-Col 8 Line 60, Col 20

Lines 42-62).

Each decode process stores its respective portion of the decoded frame when the frame comprises an I frame or P frame as required by claims 9 and 23(Col 7 Line 52-Col 9 Line 18).

[claims 10 and 24]

Artieri teaches the method of claim 7 and system of claim 21, wherein said exchanging further comprises synchronizing processing between said multiple decode processes (Col 20 Lines 26-36 and Col 21 Lines 14-26).

[claims 13 and 27]

Artieri further teaches the method of claim 1 and system of claim 15, wherein said decoding comprises sequentially decoding by the multiple decode processes their respective portions of the frame as the encoded stream of video frames passes through the multiple decode processes (Col 7 Lines 34-43 and Col 20 Lines 14-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 11, 12, 14, 18 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Artieri as applied to claims 1, 3, 13, 17 and 27 above, and further in view of US Patent 5,532,744 to Akiwumi-Assani et al.

[claims 4 and 18]

Artieri teaches the method of claim 3 and system of claim 17 as shown above.

Artieri teaches the use of multiple standard definition decoders in order to process high

definition video (Col 20 Lines 4-10). Artieri does not specifically teach the decoding

occurs in realtime.

Akiwumi-Assani teaches the use of multiple standard definition decoders in order

to decode high definition video in realtime (Col 3 Lines 16-27 and Col 4 Lines 1-15). It

would have been obvious to one of ordinary skill in the art at the time of the invention to

combine the method of Artieri and Akiwumi-Assani in order to provide a realtime

decoder for high definition video using standard definition video decoders.

[claims 14 and 28]

Artieri teaches the method of claim 13 and system of claim 27 as shown above.

As shown in Figure 3, Artieri further teaches the use of a display buffer (15) for each

decoder (Col 8 Lines 13-61, Fig. 3). Artieri does not teach the decode processes

outputting their respective decoded portions of the frame to a display buffer.

As shown in Figure 1, Akiwumi-Assani teaches the use of a frame buffer (35) in

which the decode processes (12) output their respective decoded portions of the frame

in order to assemble the frame to provide a video signal suitable for display (Col 6 Lines

9-14, Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of

the invention to combine the method of Artieri with the buffer of Akiwumi-Assani in order

to assemble the frame to provide a video signal suitable for display.

Claims 11, 12, 25, 26 and 29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Artieri as applied to claims 1 and 15 above, and further in view of US

Patent 5,686,965 to Auld.

[claims 11 and 25]

Artieri teaches the method of claim 1 and system of claim 15 as shown above.

Artieri further teaches the use of headers for use by the decoders in decoding the

portions of the frame encoded using the MPEG standard (Col 1 Lines 13-15, Col 2

Lines 30-55, and Col 7 Lines 10-27). Artieri does not teach the use of time in the

headers.

Auld teaches the picture header for an mpeg stream contains a time stamp (Col

1 Lines 51-65 and Col 5 Lines 1-5). It would have been obvious to one of ordinary skill

in the art at the time of the invention that the headers of Artieri contain a time stamp as

this is standard in an mpeg stream as taught by Auld.

[claims 12 and 26]

Artieri teaches the respective portion of the frame decoded by each decode

process comprises a respective number of macroblock rows of the frame (Col 20 Lines

4-25, Figs. 7 and 8), and wherein each decode process automatically determines which

macroblock rows of said frame comprise its respective portion of the frame to be

decoded (Col 20 Lines 14-36, Fig. 8) in order to decode a high definition picture using

standard definition MPEG decoders. It would have been obvious to one of ordinary skill

in the art at the time of the invention to use the method of Artieri in order to decode high

definition video using standard definition MPEG decoders.

[claim 29]

Artieri teaches the method of claim 1 and system of claim 15 as shown above.

Artieri teaches the receiving of the encoded video on the CDin bus (Col 1 Lines 22-24,

Fig. 1). Artieri does not specifically teach the receiving of the video from a host.

As shown in Figure 2, Auld teaches the prior art of providing a host (synchronizer

44) for receiving incoming encoded video, preparing the video for decoding, and

sending the video to the video decoder (Col 6 Lines 21-33, Fig. 2). It would have been

obvious to one of ordinary skill in the art at the time of the invention to combine the

decoder of Artieri with the host (synchronizer) of Auld in order to find the variable length

symbols which represent specific signal information in accordance with the syntax of the

MPEG decoding algorithm as taught by Auld.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Artieri

[claim 30]

Artieri teaches the method of claim 1 and the system of claim 15. Artieri further

teaches the use of a microprocessor such as an INTEL 486-type to perform tasks. It

would have been obvious to one of ordinary skill in the art at the time of the invention to

use stored programs to control processors in the video decoding system as the use of

software and microprocessors is well known in the art in order to easily upgrade the

program used by the processor (OFFICIAL NOTICE).

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

US Patent 5,767,797 to Yogeshwar et al.

US Patent 5,381,145 to Allen et al.

'Implementation of digital HDTV video decoder by multiple multimedia video processors' to Lee et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 703-305-5543. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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